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ABSTRACT

It is argued that knowledge about the testing of intonation in English as a foreign language is inadequate; the major problems are outlined and tentative suggestions are given. The basic problem is that the traditional foreign language teacher's conception of intonation is limited. A three-part definition of intonation is favored, with suggestions on how to assess each of these subsystems. The sections deal with the assessment of the subsystems of tonality, tonicity and tone which together make up intonation. Tonality is defined as the distribution into tone groups--the number and location of the tone group boundaries. Tonicity is defined as the placing of the tonic syllable--the location in each tone group of the pretonic and tonic sections. Tone is defined as the choice of primary and secondary tone. In the discussion of tone, it is noted that: (1) specific tones do not always accompany specific grammatical forms; (2) there is dialectical and ideolectal variation in tone; (3) there is a "mirage effect" when assessing tone; and (4) tone is not an easily isolated item. The problems of the selection and elicitation of data for assessing intonation are discussed briefly, concluding that free speech with controlled content is the best method. In order to reach a valid and reliable assessment of intonation, more attention must be paid to the importance of the problems involved. (NCR)

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PROBLEMS IN TESTING THE INTONATION OF ADVANCED FOREIGN LEARNERS

1. Introductory comments

An examination of the literature on the testing of English as a foreign language, and particularly on the testing of the spoken language over the past couple of decades has revealed a very worrying situation as far as the testing of intonation is concerned. The impression one gets when going through the relevant books and journals is that writers on the testing of English proficiency split roughly into two groups: those that either totally omit this topic from their work or deal with it in as superficial and brief a way as possible, and those that do make a serious attempt at discussing it.

The writers who either do not deal with this problem at all, or deal with it very cursorily are doing a great disservice in my opinion. Such an approach implies, by omission, particularly to the young teacher searching for guidance in such matters as testing, that intonation does not need to be tested and, if that is the case, one must draw the conclusion that correct intonation is not very important. Notable among the linguists who have written major works on language testing and yet belong to this group are Harris (1969) and Heaton (1975). Harris has a whole chapter entitled "Testing Oral Production", but still makes no reference to intonation. Heaton, in his chapter "Oral Production Tests" does make reference to intonation, but this is dealt with very much in passing and in no detail. Intonation, in my opinion, is a very important component of the spoken language.

While I criticise the first group for omitting intonation from their discussion of language testing, I must also

criticise those who do discuss the testing of intonation for giving what I consider to be a false impression - that we have a fairly clear idea of what intonation is, of how the system operates as part of the whole language system, and of how to test intonation in a reliable and valid way. This criticism will be exemplified and expanded on in the relevant sections of this paper.

I shall argue that what we know about the testing of intonation is still very inadequate, and I shall attempt to outline some of the major problems which are still unsolved. I do not for one moment claim to have the answers, but it is my belief that we cannot even begin to solve the problems until we have clarified for ourselves what they are. Wherever possible, I make tentative suggestions which will, I hope, be found useful.

2. What do we understand by the term "intonation"?

2.1. The traditional foreign language teacher's conception of intonation. The most common conception of intonation in the literature on language testing is that intonation is concerned with pitch-patterning (whether an utterance is said on a falling or a rising pitch, for example) and that is all. The most notable writer in this field to give this impression is Valette (1967). Valette's notion of intonation is equivalent to what Brown (1977) calls the "limited definition" of intonation i.e. "variation in direction of the pitch of the voice of the speaker". Following the work of Halliday (1967), I wish to argue that there is more to intonation than this, and that pitch-patterning, or "tone" as Halliday calls it, is only one of three co-existent sub-systems which together make up intonation. What is more, I shall argue in section 6 below, that tone is the most variable and the least measurable and assessable of the three sub-systems. Ironically, the most common way in which intonation is tested by foreign-language teachers, if it is tested at all, is by listening to the pupil's speech and deciding, according to some predetermined (but

not usually satisfactorily defined) notion, how deviant his pitch-contours are.

2.2. Halliday's (1967) conception of intonation (as followed in this paper). In "Intonation and Grammar in British English" (1967), Halliday describes the three sub-systems of "tonality", "tonicity", and "tone", and provides the following definition of intonation (p. 18):

> It can be seen, therefore, that in any utterance in English, three distinct meaningful choices or sets of choices, are made which can be, and usually are, subsumed under the single heading of "intonation". These are: first, the distribution into tone groups - the number and location of the tone group boundaries; second, the placing of the tonic syllable (...) - the location, in each tone group of the pretonic and tonic sections; third, the choice of primary and secondary tone. I propose to call these three systems "tonality", "tonicity" and "tone". The three selections are independent of one another.

If we reject the limited definition of intonation in favour of Halliday's three sub-system definition, any measurement of intonation must account for all three of the sub-systems and not just for tone.

In sections 4, 5 and 6 below, I shall offer some suggestions as to how to assess each of these sub-systems, but prior to that, I wish to discuss briefly the problems of the selection and elicitation of data for assessing intonation.

3. The data

3.1. Free speech or reading passage? Assuming that the students in question are literate, the question arises whether their intonation should be judged on the basis of their free speech (see section 3.2. below) or on the basis of a passage which is read aloud. Arguments for and against both of these types of data may be found in the literature, and I am in agreement with those who argue that there is a difference between "reading intonation" and "speaking intonation".

I would argue for the assessment of equal-sized chunks of free-speech and reading data.

The benefits to be derived from using the reading passage are great. Firstly, the test-constructors have full control of the passage to be used, and therefore of the data to be assessed. The other major benefit is that comparability is achieved - one of the most awkward aspects of assessing intonation on the basis of free speech is the fact that each examinee says something different, and comparability is lost, or is at best, limited. As to the choice of the passage, it would seem advisable to choose a passage whose lexis and syntax are well within the ability of the students. I see no point in using a passage which is too difficult for them, since this is a test of intonation, not of reading comprehension, and if the passage is very difficult, one is likely to get a hesitant, stuttering, word-by-word, or even syllable-by-syllable reading, from which it will be virtually impossible to assess intonation. From my own experimentation I have found that dialogue is very suitable for this type of test since it tends to provide a greater range of pitch-contours within a short passage than a piece of prose narrative does.

On the other hand, to judge intonation solely on the basis of a reading passage would not provide a full picture. Bearing in mind that the students being assessed are advanced, I feel that their intonation should also be examined when they are producing free, uncontrolled speech. Under such conditions we can best judge the impression that their intonation makes when they are speaking in the foreign language. Comparability, something so prized in language testing, is, of course, lost. However, a compromise between fully controlled speech and fully uncontrolled speech could be reached in the following way: the students could be asked to retell a story that they had been given to read previously in their mother-tongue. Or, for those who dislike the use of the mother-tongue lest this be labelled a translation test (which I dispute), the students could be asked to retell the plot of a film-strip or of a set of pictures. By using such

techniques, free speech with controlled content is achieved, and this makes for partial comparability.

3.2. Free speech or specifically elicited utterances?
The literature on language testing is peppered with examples of intonation tests in which the students is required to make fixed controlled responses to stimuli provided in various forms (many of the elicitation techniques are very similar to the traditional structural drill in the language laboratory). I am opposed to such tests for several reasons. Firstly, they imply that we know exactly what intonation contour must be used in response to these stimuli. As I shall discuss below, I do not believe this to be possible most of the time. Consequently the "objectivity" often argued for with such techniques is not objectivity at all. Secondly, these stimuli are often given out of context, making the whole exercise pointless. In my opinion, given a little imagination, there must be several different intonation contours which would fit in with most of these stimuli. As Lado (1961: 121) says:

> One knows the intonation of a language when he can produce and recognize functionally the intonation patterns of the language in the stream of speech.[1]

Thirdly, and this links with what I said in section 3.1. above, this would not provide a picture of an advanced student demonstrating his real intonation. Consequently, I would wish to assess "speaking intonation" on the basis of free connected discourse elicited in the way suggested above.

The following three sections deal with the assessment of Halliday's three sub-systems of tonality, tonicity and tone which together make up intonation.

4. The assessment of tonality

Tonality is defined as "the distribution into tone groups - the number and location of the tone group boundaries".

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[1] My underlining

(Halliday 1967: 18).

Of the three sub-systems of tonality, tonicity and tone to be discussed, the one which is least discussed in the literature is tonality.

The way one chooses to divide one's utterances into tone groups should reflect the way the information is being conveyed. As Halliday says (p. 22): "Each tone group is then considered to contain one major information point". Foreign learners may be deviant in their tonality in that the tone groups into which they divide their speech may not be the substantial realization of information units - they may divide their speech into more or into fewer tone groups than a native speaker would.

If one is to be able to claim that one is assessing the students' intonation, then this aspect of intonation must be included, along with tonicity and tone.

In the reading passage it is not too difficult to establish norms of tonality, by examining the tone group divisions of a control group of native speakers. Despite differences that will surely be found, it should be possible to determine, with a fair degree of accuracy, where it is "permissible" and where it is not "permissible" to place tone group boundaries.

In a free speech passage such a procedure is, of course, not possible. Mendelsohn (1977) attempted to determine whether a group of native speakers of Hebrew were placing the tone group boundaries in "unacceptable" places in terms of the syntax. He determined the tone group boundaries following Rees (1975: 16), not Halliday's (1967) procedure, since it was found to be unhelpful and circular in places, and used the phonetic cues of pause marker, length marker and pitch marker. This procedure, examining boundaries in terms of the syntax, proved unhelpful in deciding on deviance in tonality: Mendelsohn (1977: 196) says:

> Sixty-five of the eighty-one boundaries of the non-natives occurred at places where the native had also placed boundaries... The remaining 16 tone group boundaries occurred in 11 different places which did not occur in this particular sample of native speech but seemed to occur in predictable places quite likely to be found in the speech of native speakers ...

It should be borne in mind that for the purposes of this small pilot study, he specifically used the speech of the two non-native speakers who had the highest number of tone groups in the entire corpus.

Mendelsohn (1977) then proceeded to establish norms for the group of non-native speakers in the following way: the number of tone groups used by each and every native speaker in the control group was counted on an identical-length passage of free speech, and the upper and lower limits of the number of tone groups for native speakers was determined. This was recognized as the "acceptable range" of number of tone groups for the foreigners. While such a procedure is fairly crude, and does not provide information as to specific tone group divisions, it does provide an overall picture as to whether the examinee's tone group division is within an "acceptable" range. The argument that Mendelsohn uses in justifying such a procedure is that it shows up the students whose tone group divisions are so deviant that this would disturb a listener making an overall global assessment of their speech.

5. The assessment of tonicity

Tonicity is defined as: "the placing of the tonic syllable /.../ - the location in each tone group of the pretonic and tonic sections". (Halliday 1967: 18).

Tonicity is usually mentioned in the literature on the testing of the spoken language, and is not something unfamiliar to the foreign language teacher.[1]

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[1] Some authors treat tonicity as defined in this paper as part of stress, but I prefer to reserve the term "stress" for word stress, and to see tonicity as part of the intonational system, since it is conditioned by the nature of the information being imparted by the whole information unit.

Halliday relates the placing of the tonic to the notions of "given" and "new" information contained within the information unit (i.e. within the tone group). Halliday (1974: 13-14) states the following:

> The syllable on which the tonic prominence falls is the last accented syllable of the New. The element bearing the culminative tonic accent is said to bear the 'information focus'.

He goes on to say: "When the final element is New, what precedes it may be either Given or New. In all other instances, i.e. when some non-final element is presented as New, then every other element in the information unit is thereby signalled as Given". He defines Given as "treated by the speaker as recoverable to the hearer from the environment", and New as "non-recoverable".

The tonic, then, may occur in places other than on the last lexical item either if it is followed by Given information in the tone group, or in order to be contrastive.

With the definitions mentioned above, it is possible to note deviant tonicity.

As with the assessment of tonality, the assessment of tonicity in the reading passage does not pose a very serious problem, provided that a control group of native speakers has been recorded reading the same passage. It is possible to decide where it is acceptable, and where it is unacceptable to place the tonic and then to count the number of instances of deviant tonicity for each of the examinees.

In a free speech passage, basically the same procedure may be followed, but, of course, what will not be available is the yardstick of the control group's performance, against which to measure the foreign learner. This makes assessment more difficult, and less reliable. The only solution to this problem is to examine the placing of the tonic in each tone group of each of the students, and then to have one or preferably more than one colleague make a similar assessment in order to obtain greater reliability. This follows the principle of "team marking", that provided there is a basic similarity between the marking of individual judges, the greater the number of judges, the greater the reliability.

This idea is expressed in very strong terms by Wiseman (1949: 203) who suggests that one could "postulate a true mark which would be that given by the pooled judgment of an infinite number of markers".[1]

The sub-system of tonicity is, then, the least problematic of the three to assess.

6. The assessment of tone

Tone is defined as "the choice of primary and secondary tone". (Halliday 1967: 18). As has already been stated in section 2 above, this sub-system of intonation, concerned with pitch movement, is extensively attempted by foreign language teachers, but it is my contention that at the stage that research on intonation has reached, tone cannot yet be validly and reliably assessed. For reasons that I shall discuss in some detail in sections 6.1. - 6.3. below, the conclusion that I am forced to draw is that the foreign language teacher is not able at present to assess the tone of his learners validly and reliably even if he believes that he is.

6.1. Specific tones do not always accompany specific grammatical forms. It has often been argued that certain grammatical forms are always accompanied by particular tones. This must be severely criticised as a highly irresponsible claim. Cruttenden (1970: 187-188) quotes a study by Fries (1964) showing this claim to be quite unfounded and goes on to state: "A particular tune cannot be said to 'mark' a particular sentence-type any more than intonation-group

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[1] Much experimentation has been done showing the reliability of team marking, notably that of Cast (1939), Wiseman (1949), Finlayson (1951), and Pilliner (1973, and numerous replications before and after this date).

boundaries may be said to mark clauses or sentences".

Kenworthy (forthcoming) quotes the claim by Quirk et al. (1975: 7.45):

> Questions are sentences marked by one or more of these three criteria: a) the placing of the operator immediately in front of the subject; b) initial positioning of an interrogative or wh-element;[1] c) rising intonation.

Quirk et al. then go on to discuss the declarative question which "is identical in form to a statement, except for the final rising question intonation" (7.50:195). Kenworthy then reports on the findings of her research on Scottish English, which suggest that what Quirk et al. argue is probably not correct:

> In our corpus we have many examples of what we consider to be declarative questions. However none have rising intonation - all have low falling intonation.

These are just two examples showing that a claim like the one referred to above is not empirically sound - tone is not fully predictable from the grammar. Or, to state this from the standpoint of the foreign language teacher, one cannot with any degree of certainty, score for a particular pitch contour on the basis of the grammar.

6.2. Dialectal and idiolectal variation in tone. Recent research, notably that of Brown (1977), has shown that there is a great degree of variation in tone between different dialects:

> Tone ... varies very much between accents; very markedly so even within the accents spoken in Britain, and, within accents, varies to some extent with the individual. (Brown: 1977).

In a personal communication, Brown has gone so far as to suggest that apart from the final tone group in a larger utterance, which invariably contains a fall-to-low, it is virtually impossible to listen to a group of foreign learners and to score them for "deviant tone" in any sort of valid and reliable way.

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[1] Markers a) and b) are irrelevant to our discussion.

6.3. The "mirage effect" when assessing tone. Gunter (1972: 198) makes the following statement which is directly related to Brown's claim mentioned above:

> There are sentences that can take many different intonations; there are intonations that can occur with all sorts of sentences; and - most telling of all - there is no string of words that has one necessary intonation.

Mendelsohn carried out a pilot study attempting to score for deviant tone, and found Brown and Gunter to be absolutely correct (Mendelsohn 1977: 188):

> Initially one notes several seemingly deviant tones. However, on reconsidering them, one decides that most of those already listed are not deviant at all. And then, referring those that are left to a second judge often results in one being convinced that these, too, are acceptable. Virtually for every example, it is possible to put forward a counter-argument rejecting one's claim of "deviance".

6.4. Tone is not an easily isolated system. A final problem when attempting to assess deviance in tone is that there are many other parameters which operate together with tone and cannot in effect be separated from it. This is very forcibly argued by Pike (1967: 2):

> Various related phenomena, however, were interwoven with the pitch action: rhythm, stress, quantity, pause, sequences of contours, style, voice quality, emotion, mental attitude, dialectal differences, syntax, morphology (including compounding) and so on.

7. Concluding comments

In section 1 I criticised those who write on the testing of the spoken language and ignore intonation, and I also criticised those who give the impression that there is no particular problem in testing intonation.

In this paper I have attempted to argue, first of all, that intonation is an important parameter of the spoken language and should not be ignored. And in the latter part of the paper, I have attempted to point out some of the unsolved problems, particularly in the assessment of tone,

facing anyone wishing to assess the mastery of intonation by foreign learners.

Only when these problems have been solved will it be possible to reach a valid and reliable assessment of intonation as a whole. This could then be achieved by conflating the results obtained on each of the three sub-systems into one score.

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